Chylopericardium in pregnancy with cardiac tamponade and subsequent pre-eclampsia

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Background

Chylopericardium in pregnancy is an extremely rare phenomenon, with potentially fatal consequences for both mother and fetus. Associated complications include cardiac tamponade, pre-eclampsia and preterm birth with extreme prematurity. The coexistence of pre-eclampsia suggests that there may be a causal relationship with chylopericardium as a downstream effect of placental insufficiency.

Aim

To highlight the associated complications of chylopericardium in pregnancy

Case

A 39-year-old primigravid presents at 24+6 weeks gestation for routine antenatal care with new peripheral swelling and static fundal heights. On further history, she reported a 1-month history of intermittent chest pain, cough and orthopnoea. Past medical history included benign congenital pericardial cysts identified 2 years prior on routine CXR performed for visa requirements, for which no further follow-up was recommended. cFTS and pre-eclampsia risk screening were not completed. Examination was unremarkable with normal BPP and no evidence of pulmonary oedema or neuroexcitability.

Results

Initial pre-eclampsia screen was negative, though PlGF was 26.0pg/mL and sFLT/PlGF ratio elevated to 284. Ultrasound at 25+0 demonstrated asymmetrical IUGR of a female fetus with EFW 559g (1%), AC <1%, HC 8%, increased UAPI >99% with intermittently absent EDF and increased uteroplacental resistance. MCA and DV dopplers were normal with AFI 9.2cm.

Chest imaging including CXR, CT and TTE showed a large 17cm anterior mediastinal fluid lesion with pericardial effusion and cardiac tamponade. Due to the risk of unstable maternal disease, and parental request for full neonatal resuscitation, she was steroid covered at 25+1 & 25+2. Pericardiocentesis and subsequent pericardial drain demonstrated chylous fluid, with no evidence of malignancy or lymphoproliferative disease. She became hypertensive at 25+4 with raised urine PCR 58mg/mmol, confirming a concurrent diagnosis of pre-eclampsia.

At 26+2, routine cardiotocography showed fetal tachycardia, reduced variability and unprovoked decelerations. This triggered commencement of MgSO4 for neuroprotection and emergent caesarean section thereafter.

Placental histopathology demonstrated maternal vascular malperfusion with 20% infarcts. Her pre-eclampsia quickly resolved post-delivery with no further anti-hypertensive requirements by 1-week postpartum. She underwent resection of her anterior mediastinal mass 2-weeks postpartum for which genetic testing is currently pending.

Discussion

- Chylopericardium is clinically difficult to differentiate from complications of pre-eclampsia such as pulmonary oedema.
- Clinical vigilance and appropriate utilisation of chest imaging is vital to facilitating early intervention.